

CLAIMS

1. A fire resistant door designed to prevent the spread of fire comprising:  
a frame;  
a door hingedly connected to the frame; and  
5 a heat activated self closing mechanism comprising a trigger mechanism including a firing pin, a fusible link plug, and a slave pin spaced from the firing pin by the fusible link plug, and wherein the fusible link plug melts when exposed to sufficient heat which enables the firing pin to actuate the slave pin.
- 10 2. The fire resistant door of claim 1 wherein the trigger mechanism further comprises a compression spring biased against the firing pin, which actuates the firing pin when the fusible link plug melts.
3. The fire resistant door of claim 2, wherein the fusible link plug further comprises  
15 a melting core, wherein the melting of the melting core allows the compression spring to drive the firing pin against the slave pin.
4. The fire resistant door of claim 1 wherein the heat activated self closing mechanism further comprises a collapsible supporting member adapted to hold the door spaced  
20 from the frame in an open position.

5. The fire resistant door of claim 4 wherein the collapsible supporting member further comprises a gas spring having a pressurized cylinder core and a pressure release valve.

6. The fire resistant door of claim 5 further comprising a threaded hollow stud  
5 adapted to be connected to the pressure release valve, wherein the slave pin can move into the threaded hollow stud and engage the pressure release valve to bleed gas out of the pressurized cylinder core.

7. The fire resistant door of claim 6 wherein the trigger mechanism interacts with the  
10 collapsible supporting member to collapse the collapsible supporting member when sufficient heat is applied to the door .

8. The fire resistant door of claim 1 wherein the door has a bottom wall, a top wall and side walls, and wherein the top and side walls comprise aluminum material.

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9. The fire resistant door of claim 8 wherein the bottom wall comprises an outside surface and wherein a layer of intumescent material is applied to the outside surface of the bottom wall.

20 10. The fire resistant door of claim 8 wherein the top wall comprises an outside surface and wherein no cementitious material is applied to the outside surface of the top wall.

11. The fire resistant door of claim 1 wherein the frame further comprises a flange adapted to engage the door when the door is in a closed position.

12. The fire resistant door of claim 11 wherein the flange further comprises a  
5 fiberglass gasket connected to the flange.

13. A fire resistant door designed to prevent the spread of fire comprising:  
a frame;  
a door hingedly connected to the frame, the door having a bottom wall, a  
10 top wall, and side walls, the bottom wall having an outside surface and the top  
wall having an outside surface; and  
a layer of intumescent material on the outside surface of the bottom wall,  
and the outside surface of the top wall being clear of additional insulating  
materials.

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14. The fire resistant door of claim 13 wherein the top wall is clear of cementitious material.

15. The fire resistant door of claim 13 further comprising a heat activated self closing  
20 mechanism including a trigger mechanism and a collapsible supporting member.

16. The fire resistant door of claim 15 wherein the trigger mechanism further comprises a firing pin, a fusible link plug, and a slave pin spaced from the firing pin by the fusible link plug.

5 17. The fire resistant door of claim 16 wherein the trigger mechanism further comprises a compression spring biased against the firing pin, which actuates the firing pin when the fusible link plug melts.

18. The fire resistant door of claim 17 wherein the fusible link plug further comprises  
10 a melting core, wherein the melting of the melting core allows the compression spring drive the firing pin against the slave pin.

19. The fire resistant door of claim 15 wherein the trigger mechanism interacts with the collapsible supporting member to collapse the collapsible supporting when sufficient heat is  
15 applied to the door.

20. The fire resistant door of claim 13 wherein the door has a bottom wall, a top wall and side walls, and wherein the top and side walls comprise aluminum material.